B. To the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A method of using long range guided wave inspection techniques to detect geometric irregularities in a structure, comprising the steps of:

generating a first long range wave from a first probe at a first probe position;

acquiring a first data set representing reflection signals reflected from an irregularity to the first probe;

generating a second long range wave from a second probe at a second probe position having a known separation from the first probe position;

acquiring a second data set representing reflection signals reflected from the irregularity to the second probe position;

wherein the first probe and the second probe are located on the same side of the irregularity such that the reflection signals to the first probe and the reflection signals to the second probe travel in the same direction;

identifying peak signal values in the first data set and in the second data set, thereby obtaining a first set of peak signal values and a second set of peak signal values;

associating each peak signal value with an ~~occurance~~ occurrence time;

time-shifting one set of peak signal values by an amount ~~that would cause the reflection signals to be received at the same time if the probes were in the same position~~ equal to the roundtrip travel time of the distance between the first probe and the second probe;

determining a coincidence in time of values in the shifted set of peak signal values and values in the unshifted set of peak signal values; and

interpreting coincident values as corresponding to an irregularity in the structure ~~along the shared path of the first and second long range waves~~.

2. (Previously Presented) The method of Claim 1, wherein the first data set and the second data set are in the time domain.

3. (Previously Presented) The method of Claim 2, wherein the first data set and the second data set represent A-scan data.

4. (Previously Presented) The method of Claim 1, wherein the first data set and the second data set are in the frequency domain.

5. (Previously Presented) The method of Claim 4, further comprising the step of converting the first data set and the second data set to time domain data before performing the identifying step.

6. (Previously Presented) The method of Claim 1, wherein the identifying step is performed by defining a gate length and selecting a maximum signal value within each of a series of gate lengths.

7. (Previously Presented) The method of Claim 1, wherein the determining step is performed by defining a time limit within which both a value in the shifted set of peak signal values and a value in the unshifted set of peak signal values must occur.

8. (Previously Presented) The method of Claim 1, wherein the occurrence times correspond to peak signal values.

9. (Previously Presented) The method of Claim 1, wherein the occurrence times are determined by the median time during which data values exceed a threshold.

10. (Previously Presented) The method of Claim 1, wherein the probes are suitable for magnetostrictive testing.

11. (Previously Presented) The method of Claim 1, wherein the probes are suitable for Lamb wave testing.